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Railroads and the Adirondack Reservation.

DURING the last session of the legislature at Albany a bill was introduced to prevent railroads from crossing any of the forest-lands owned by the state. The bill at once met with strongly-organized opposition, was amended so as to destroy its efficiency, and ultimately was killed outright. It was evident that some powerful corporations were anxious to get at the hard-wood forests which had hitherto been preserved because they were practically inaccessible. The great bulk of the pine and spruce has been cut already, or is doomed to early removal, because this timber can be floated down the small streams to mills and markets. These conifers, however, form a comparatively small portion of the forest, and if the hard-wood trees were left standing the advantages which the people of the state gain from the forests would still remain. It is true that the waste from the evergreens is too often left in the woods by the lumberman, and this is an invitation to fire, which may consume the standing timber, but it is possible to prevent these conflagrations or to hold them in check.

But when a railroad penetrates the recesses of a hard-wood forest its destruction is absolutely certain. These roads are often constructed for the avowed purpose of stripping the land of its timber, and stripping it clean. Besides this, they necessarily increase the danger from fires, not only by kindling them with sparks from locomotives, but by multiplying the number of loggers, and squatters and hunters, who light camp-fires along their course. That it was railroad interests which killed the bill alluded to, and killed it because they were meditating an immediate invasion of the forest through the state-lands is evident from what has happened since the legislature adjourned. According to a careful statement in *The Tribune*, of this city, no less than four railroads—one from the north, one from the south, one from the east, and one from the west—have already begun, or are about to begin, extensions of their lines into the very heart of the Reservation, so as to reach the best blocks of timber which still remain in the North Woods.

The Northern Adirondack Railroad, which runs southward to Paul Smith's, is now pushing onward through a region of dense forest to Tupper's Lake. It is built primarily as a lumber road, and it means the extinction of this forest. The Carthage & Adirondack Railroad has been extended eastward this summer almost to Cranberry Lake; and, besides its purpose as a lumber road, its connection with iron works will incite more charcoal-burning, an industry which obliterates every vestige of a tree when it is conducted on the methods prevalent in the Adirondacks. The Delaware & Hudson Canal Company, having recently acquired the Adirondack Railroad, propose, it is said, to extend it northward across the Wilderness to unite with the Northern Adirondack Road. At all events, the extension is now surveyed as far north as Long Lake. Finally, the Chateaugay Railway, coming into the Wilderness from the east is planning to stretch on beyond Saranac, its present terminus, to Lake Placid. West of Lyon Mountain is a dense, hard-wood forest which is now owned for twenty-four miles by this Chateaugay Company, and through this it is proposed to cut a swath six miles wide, three miles on either side of the track, taking every stick for charcoal, and leaving behind a verdureless desolation. After the charcoal kilns have swallowed up the last available bit of wood, the chips and branches are gathered into heaps about the stumps and fired, until everything inflammable is consumed, including the thick mat upon the forest floor, which can only be felted together by the slow processes of Nature carried on through centuries. This means not only death to every green thing, but to every hope of renewed forest-growth for generations to come. The reason offered for this effacement of all life is that it insures protection to the adjacent forests owned by the same company. Sparks from their locomotives will fall into no tinder, and tourists will kindle no camp-fires after the charcoal-burners have left the land. The entire strip will be as bare and barren as so many miles of sand upon the sea-coast.

The only way to protect the Adirondack Woods from being utterly swept from the face of the earth is for the state to acquire the land in fee-simple Something beyond this is, no doubt, essential: an administration which is above the mutations of party politics; a policy which is adapted not to temporary conditions, but which looks forward to results in the far future; an educated public sentiment which will tolerate no ignorance nor inefficiency in the men who have executive authority over the Reservation and which will insure abundant moral and financial support to worthy officers—but, after all, the state must own the land, and the sooner it begins to acquire a title the better. No doubt it would be wise to begin with moderation—that is, with a comparatively small appropriation and a maximum limit of price per acre. But a beginning should be made, and the public spirit and intelligence of the state should organize itself to enforce a judicious administration of the trust.

A writer in the *London Lancet*, in reviewing Mr. Henry Gannett's paper, in which the ground was taken that the forests upon the mountain ranges in our western States and Territories had the effect of decreasing the supply of water available for irrigation, and therefore that the sooner they could be wiped out of existence the better it would be for the country—a view which we have already shown could not be substantiated by any scientific data—says:

"He (Mr. Gannett) admits that land under tillage retains its moisture better than land not so treated, and that woods equalize temperatures and air currents and act as water reservoirs. But some of his divergences from the popular view are surely inadequately reasoned out; for example, that the great superficial area made up by leaves favors evaporation and sends back to the air a large proportion of the rain which, unintercepted, would go straight to the soil, which is thus impoverished of its due supply of moisture. To this objection Ebermayer can rejoin that evaporation in the forest is two and a half times less than outside it; nay, Clavé makes it as much as five times less. If we take into account the protective covering of the soil caused by the leaves that have been shed

upon it, then, compared with the evaporation from the free or woodless ground, we get a diminution of more than eighty per cent.! The practical question, however, lies not so much in the increase or diminution of the rain-fall as in its distribution."

Some Old American Country-Seats.

III.—Belmont.

BEYOND Fresh Pond the road from Cambridge to Waverly ascends a gentle swell of smoothly-surfaced upland, enters the shade of arching Elms and presently discloses on the right hand a green lawn of an extent that is uncommon near Boston. The ground has a beautiful form. It descends a little from the road towards a gentle hollow which holds a small pond, and thence it rises very gradually, and with many slight irregularities of slope, to the wood which bounds the scene at the north, and to the house at the north-west. The western border of the open ground is a wood of native, deciduous trees through which the approach road goes to the house. In many places the grass runs in between the surrounding groves, so that only the lower or eastern boundary of the lawn appears in the least degree formal or stiff. A few Hickories rise in the midst of the grass. They are quite in keeping with their surroundings, but this cannot be said for the group of White Pines, or the two or three Norway Spruces, or the big Larch encircled by old plants of Arbor-vitæ, which are the companions of the Hickories in the open ground. Our picture, (page 330) taken from a point near the little pond, shows only the upper half of the lawn and but one of these incongruous trees, the Spruce, which appears behind the two Hickories in the foreground. This Norway is a fine specimen of its kind; its lower limbs rest upon the ground on all sides, but it should never have been planted where it is, for its formal shape is quite the opposite of every shape around it and attracts the eye to itself at once in a way which confuses the effect of the otherwise harmonious scene. The stiffly circular clump of Arbor-vitæ is a still more obtrusive object. Thoughtless planting like this has too often injured scenes which nature made harmoniously beautiful, and to which nature would gladly add more and more of character and beauty if she were helped and not thwarted by man.

The house is approached through a wood of trees which arch overhead to form a handsome informal avenue within which the road curves very gently; but as the whole length of the road is visible at once from the beginning, it had better have been made straight. At the house is a wide gravel space for the accommodation of waiting carriages, and here a junction is made with the service road, a branch of which leads to the stable. Thus all the necessary gravel spaces are provided at this one side of the house, so that the grass is free to sweep up to the very walls on two sides—a point of great merit in the plan. The fourth, or north, side is occupied by a walled kitchen-court and laundry-yard.

The house is a substantial structure of brick, with verandas built of stone. Its rooms command a view of the ten acres of lawn on one hand, and of the interior of the wood on the other. Over the tops of the trees at the foot of the lawn appears the shining dome of the State House on Beacon Hill, five miles away.

A broad walk leads eastward from the house to a point of view which commands Fresh Pond and the intervening diversified farms. Six Purple Beeches stand in a row beside this path near the house, but formality ceases at the view point, and the walk wanders off along the brink of the gentle eastward slope, passes among scattered Oaks of large size and around the small deer-park, and after sending off a branch to a knoll which offers a yet wider prospect over the Mystic River basin, returns to the rear of the garden.

Our picture on page 331 shows a part of the Oak-wood on the eastern slope. The trees are fairly well exhibited, but the gracefulness of the undulations of the ground surface at this point is scarcely suggested.

The garden behind the house is an enclosed square measuring 300 feet each way, level, and formally divided by broad gravel paths, as shown upon the plan. A conservatory and two long graperies, behind which are the potting-sheds and plant-houses, front upon the northern side of the garden, while two Peach-houses and many well-trained Pear-trees occupy the east and west walls. Most of the ground is smoothly grassed. There are two large masses of Rhododendrons mixed with similar shrubs; at the sides are long beds of perennials and foliage-plants, and grouped upon the grass near the angles of the walks, are specimens of such trees as the Flowering Magnolias, the Red-flowering Horse-chestnut, the Weeping Elm, the Swamp Cypress, the Ginkgo, the Oriental Spruce, the Swiss Stone Pine, and the Mountain Pine (*P. Mugho*). Such specimen plants are certainly quite in place in a formal garden intended to be decorative. They should, however, be chosen for their appropriateness, and grouped with due regard to the effect upon their neighbors. The Mountain Pine just mentioned is too roughly picturesque to appear in a garden like this where elegance is the end and aim.

A glance at the sketch-plan will explain the arrangement of the numerous minor buildings and enclosures of the estate. The completeness of the equipment is remarkable. There are buildings for all purposes—they are not all named upon the plan—and elaborate facilities for the growing of everything from the Parsnip and the Potato to the Chrysanthemum and the Orchid. The land company which is now in possession has cut off the farm lands, but offers the remaining parts for sale quite intact. These lands made a country-seat, at least, as long ago as 1800, when the owner was a brother of Commodore Preble. One of the daughters of the house married Mr. Nathaniel Amory, who became the next owner, and he sold the property to Mr. R. D. Shepherd, and he to Mr. J. P. Cushing. Mr. Cushing spent many thousand dollars every year upon the place and made it, thirty-six years ago, the most famous seat near Boston. Mr. S. R. Payson, the last owner, maintained and increased this fame.

To-day the place possesses something of that priceless and poetic charm which so distinguishes the Gore Place and the Lyman Place; it is felt in the deer-park and among the Oaks, but the spell is not so potent, nor does it pervade the whole scene, as at Waltham. To define the difference is a little difficult, but it is in part accounted for by the fact that a certain unavoidable suspicion of display attaches to this place—to the great expanse of clipped lawn, the specimen trees, and the elaborate gardening. On the other hand, the gardening and the specimen-planting is generally good in its way, and it is placed where it belongs: namely, in the garden, and not in the landscape.

Boston. *Charles Eliot.*

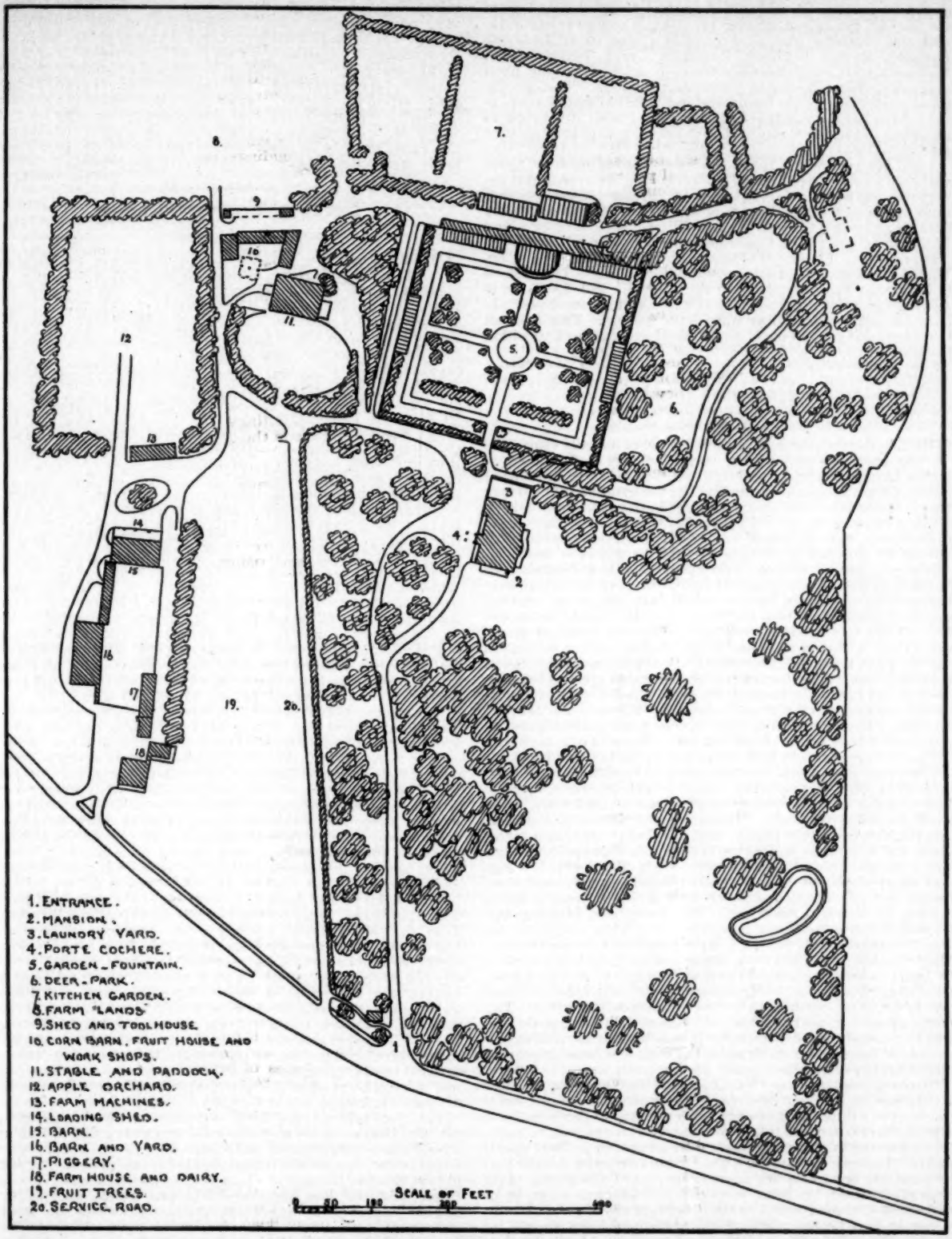
A New Race of Lilacs.

THERE may be found in some gardens still a very old variety of the common Lilac under the name of *Syringa azurea plena*. I do not know the origin of this plant. It produces small panicles of clear-colored flowers in each of which there are a number of corollas arranged one within the other. It is a teratological curiosity, but as an ornamental plant quite destitute of value, as the rare flowers are quite hidden by the foliage. This variety, as the flowers have no stamens, and the pistils are either abortive or so hidden among the numerous corolla-lobes as to be beyond the reach of insects, does not produce seeds naturally. But it will sometimes seed with the aid of artificial fertilization; and seeds secured in this way produced the first of the double-flowered Lilacs introduced during the last few years.

It is eighteen years since this plant, artificially fertilized in my nursery with pollen of various Lilacs, bore a few seeds, which afterwards germinated. Some of the best varieties of *Syringa vulgaris*, such as Ville de Troyes, Sanguinea, etc., were selected as pollen-parents in this experiment, and the pollen of *Syringa oblata*, a species remarkable for its early flowers and for the brilliant coloring of its foliage in autumn, was also used. The characters of this species, to which an article recently published in Garden and Forest has called attention, were transmitted to one of the seedlings derived from this cross. This was first sold under the name of *Syringa hybrida hyacinthiflora plena*. The term "hybrida," which is found still on the catalogue of the Maison Lemoine, was used to show that this plant is a true hybrid between two species of Syringa.

Syringa hybrida hyacinthiflora is already out of flower, although the flowers on most of our Lilacs are only just opening; and in autumn it is exceedingly ornamental, with its brilliant red foliage. The panicles of flowers are large enough, although the corolla-lobes of the double flowers are narrow and reflexed. But the production of this plant was a step in the right direction.

The other seedlings from this first crop of seed showed no trace of the blood of *S. oblata*, but there were some of them which were handsomer than *S. hyacinthiflora plena*. The best plant of this set was sent out under the name of *S. vulgaris Lemoinei*. The thyrsus of this plant is eight inches long, and covered with lilac-blue double flowers, with numerous imbricated corolla-lobes. A number of other good varieties were in the set differing from *S. vulgaris Lemoinei* in the shape of the flowers, in their color, in the color of the flower-buds, or in the



Sketch Plan of Belmont.—See page 326.

shape and size of the thyrsus. These varieties are Renoncule, Rubellà Plena, Mathieu de Dombasle and Le Gaulois. An attempt was made as soon as these different varieties flowered to get seeds from them, and the old *S. azurea plena* was discarded as a seed-bearer. The best single-flowered varieties with flowers of different shapes and colors were used to cross with the new double-flowered race, and pollen from the flowers of *S. Chinensis*, even, was tried; but this last experiment pro-

duced no results. A new set of seedlings was obtained from the second cross, and among them were some very remarkable and beautiful plants. From this sowing came Alphonse Lavallée, Michel Buchner, President Grévy, Pyramidal, M. Maxime Cornu, etc. Here we have, in addition to the form and color of the flower, remarkable variations. The corolla-lobes in one variety are round and flat, resembling a Ranunculus; they form in another a globular head, with the lobes all incurved; in another they are all reflexed, and in another they are crumpled.

I will not give now a detailed description of each of these varieties; and it need be said only that we are constantly experimenting with double-flowered Lilacs, and that each spring-time sees a new set of flowers produced, with forms and colors entirely unknown before. Nearly all the shades of color found in the flowers of single Lilacs have been produced already in this new race. Shades of blue are represented by A. Lavallée, Michel Buchner, President Grévy and Léon Simon. The darkest reds appear in Comte Horace de Choiseul and La Tour d' Auvergne; a delicate rose in Virginité; and we have now obtained a variety with large, pure blue flowers. This has not been sent out yet, but it will appear next week at the Exposition in Paris.

Nancy, April 18th, 1889. *V. Lemoine.*

Entomological.

Cut-worms.

THIS is the popular and expressive term usually employed to designate the larvæ of certain species of the Lepidopterous family, *Noctuidæ*, and it is based upon their practice of eating off young plants at the level of the ground. The more succulent the plant, the greater the danger from Cut-worm. Usually the complaints come in just after plants are set out, and I myself have seen a field of young plants set out one evening cut off to the extent of fully one-half by the next morning. The explanation is simple: many of the larvæ of *Noctuidæ* are hatched in the autumn and hibernate about one-third or one-half grown. They are voracious in spring, and, after a cleared spot of ground is planted, the only vegetation on it must suffer. Other larvæ hatch early in spring and feed on grass, weeds and whatever may be on the ground until it is cleared for the garden plants. Then the enforced fast until vegetation returns to their neighborhood makes them dangerous to whatever is set out. They are nocturnal in habit, lying hid just under the surface of the ground during the day, and feeding at night. In the morning they can be most usually found at or near the base of the plants cut off by them during the night.

Various means have been tried to keep them from the plants —lime, salt, gas-tar and a variety of other repellants have been employed, all with a variable, usually small, degree of success. Later, as the habits of the worms became better known, traps were prepared for them. Holes were driven with a dibble, around the newly-set plants, and the Cut-worms wandering about fell into them, and, being unable to climb up the smooth sides, perished there. Traps were set in the form of chips and short pieces of board, which proved convenient hiding places for the larvæ, and there they could be readily found during the day and destroyed. Still later, balls of grass and succulent leaves were scattered about the fields, and there the worms congregated, and were easily destroyed during the day. Most recently, the grass balls were poisoned, by being soaked in a pail of water into which a tablespoonful of London Purple had been stirred, and the Cut-worms were thus killed without the labor attendant upon a daily visitation of the lures. The trapping system with the aid of poisoned lures has, on the whole, proved most satisfactory; but, as in the case of all applications of insecticides, the element of time is a most important factor, and in many cases really determines success or failure.

There is comparatively little success from lures placed after a field has been set out and where vegetation has started, since the worms will prefer young, growing plants, to the lures, and after the larvæ become full grown and ready for pupation, lures, of course, fail in attracting more than a very few belated specimens. The proper time for a Cut-worm campaign is indicated by what has been said in the previous part of the paper. Just after the ground has been prepared for the crop to go in it, and while it is clear and free from vegetation—if possible only a day or two before planting—the poisoned lures should be spread about liberally, and the vast majority of all the Cut-worms in the prepared ground will be attracted and destroyed, It is, of course, not likely that the destruction will be complete, but the percentage of plants lost will be very much lessened, and will be insignificant in comparison to the damage that would have been otherwise caused. It has quite frequently happened that fully-grown larvæ have been sent me, and, after recommending lures, I received word that they did not attract. The explanation in such cases has been given: the larvæ were ready for pupation and their work had ceased. Lures are always successful in proportion to the lack of other vegetable matter in an infested field; and they are more successful when used early in the stage of growth than when the larvæ approach maturity. For the readers of this paper the species of Cut-worm is not important. They have all similar habits, and the same remedy is applicable to nearly all of them—certainly to all cutting plants at the level of the ground.

Rutgers College. *John B. Smith.*

Foreign Correspondence.

London Letter.

THERE was a bright display of flowers at the last meeting of the Royal Horticultural Society, but a conspicuous absence of new Orchids, although this date was fixed for Mr. Harry Veitch's paper on "The Cultivation of Orchids." Such Orchid fanciers as Baron Schroeder and Sir Trevor Lawrence do not give the public a treat very often, and, considering the risk that attends the transportation of Orchids in flower (in most cases of enormous value) for a journey of thirty miles, it is not surprising that these two staunch supporters of the society do not show more frequently. Among the few Orchids sent yesterday was a remarkable group of some two dozen specimens of *Epidendrum vitellinum majus*, every plant carrying tall branched spikes of large orange-vermilion flowers. Rarely, indeed, has such a perfect group of this Orchid been exhibited, and it is evident that the grower has hit upon the peculiar treatment this Mexican species requires. I could not ascertain how long the plants had been imported, but the bulbs seem to have been home-grown. If Mr. Partington can show this same group in such perfect condition five years hence, he might well lay claim to being the champion grower of this fastidious plant, which, though it grows well for a time, is, like *Cattleya citrina* from the same country, not to be depended upon for a great number of years. *Cattleya Mossiæ Schroederiana* was shown fairly well, but I fail to see much distinction in this variety, so named, from many others one could single out of a large collection. It has certainly a large, fine flower, and there is a delicacy about the lilac-mauve tint of the broad sepals, but the lip is not nearly so richly adorned with gold and purple as many unnamed forms I have lately seen.

Amongst a collection of Tea Roses from the well-known Tea Rose-grower, Mr. Prince, of Oxford, was the new white sport from the old Souvenir d'un Ami, which is named Souvenir de S. A. Prince. Mr. Prince catalogues it as "Undoubtedly the finest white Tea Rose offered to the public of late years, as it possesses all the good qualities of Souvenir d'un Ami combined with a more robust growth." This advertisement is endorsed by our best Rose growers, some of whom sat on yesterday's committee when a first-class certificate was proposed for it and carried unanimously. It is indeed a lovely Rose, rivaling the favorite Niphetos, with even greater depth and substance in the flowers, its snowy petals set off by the broad, deep-green foliage. The other Tea Roses from Oxford included some perfect blooms of two of the loveliest Teas that Mr. Bennett has put into commerce. These are Princess of Wales and Princess Beatrice. The former has a strong resemblance to Comtesse de Nadaillac; indeed, as the blooms were ranged side by side it needed a second look to discern the difference. Another Rose of quite a different stamp that is worthy of note is Paul's Single White, a most valuable addition to our list (never too long) of hardy climbing Roses. This one has pure white flowers, nearly three inches across, produced plentifully on slender branches that have a decided rambling tendency. When I first saw it I thought it was a large form of the Rocky Mountain *Rubus deliciosus* until I saw the foliage.

The chief task of the floral committee centred in singling out the best varieties of Pæonies, Pyrethrums and Delphiniums from a magnificent collection of flowers occupying a space of 500 square feet shown by the great raisers of these plants, Messrs. Kelway of Langport, a favorable spot in wild Somersetshire. For large size of bloom, for delicacy of tint and for fragrance, no hardy flower, except, perhaps, the Rose, can equal these double Pæonies, which have all originated from the flimsy single European and Chinese species. The best varieties grown, as Kelway sends them to town, have blooms as big as a child's head, a solid mass of petals, with a delightful blending of soft tints. Usually there is a central tuft of small petals surrounded by a row of broad or guard petals of a different color, and one of the best examples of this is in

a sort called Princess Irene, which won an award of merit. The centre is creamy-white, the guard petals pale pink, and the fragrance that of a Tea Rose. Other sorts I picked out as good were Princess Christian, pale pink; Mrs. Chamberlain, soft blush pink; Prince George, deep crimson and Baroness Schroeder, delicate pink. These comprised the cream of a large number of new varieties, every one of which was a vast improvement on old sorts. There were a good many single-flowered sorts shown, but these found no favor with the committee, in fact I don't think that single Pæonies will become popular, for the æsthetic people who made the single Dahlias popular do not seem to see beauty in a flimsy, single Pæony. The typical *P. albiflora*, however, with its cup-like flowers, snow white, incurved petals with a golden centre-tuft of stamens is very beautiful.

Pyrethrums, like the double Pæonies, are quite modern flowers, and both single and double sorts take the public taste; the double flowers because they last so long in perfection, the single ones because of their gracefulness. Kelway had many new varieties but only a dark crimson flower named Pericles won an award; not because the others possessed no merit, but the committee did not recognize the novelties as improvements on older sorts. There were some beautiful white double sorts and glowing crimsons, and one was almost a yellow, though we hardly need yellows much in Pyrethrums, seeing that we have the best of golden-yellows in annual Chrysanthemums which flower at the same time. Everybody thought the Delphiniums, or perennial Larkspurs, were wonderfully fine. Some of the spikes were two feet high, and massive in proportion. Their colors ranged from pale blue to reddish-purple, and some had showy, white eyes, which made the spikes very attractive. Four sorts were voted awards of merit, their names being Faust, Orbit, Regalia and Ardite. I will not attempt to describe their distinctive features, as it cannot be done. These Larkspurs, well grown, reach six to seven feet high, and a few masses of these appropriately placed create about the finest effect one can have in a June garden. Moreover, if cut down immediately after flowering, which is about the beginning of July, they will throw up flower-spikes in autumn again if well treated with water and manure. They are gross feeders, and will repay occasionally dosing with liquid manure, not too strong, but weak and frequent. The best soil for them is a sandy loam, and in a sheltered situation.

There were a few new Begonias sent by Messrs. Laing, the Begonia-raisers, and one, because of its persistency of bloom, as well as its large size of flower and delicate color, obtained a meritorious award. It was called Mrs. Joseph Chamberlain. Its flowers are single, five inches across one way, with white petals broadly margined with pink. A first-rate new Fuchsia also won the committee's approval. It was called Dorothy Fry. It has large, single flowers, crimson sepals and a snow-white corolla, very floriferous and of excellent habit. Among other plants worthy of note was *Verbascum Olympicum*, a large hardy biennial Mullein with broad and long leaves of a grayish-green arranged in a huge tuft from which arises the much-branched flower stems about six feet high, covered thickly with bright yellow flowers. It is a very showy border plant, and one of the finest of the numerous group of large Mulleins. It is quite hardy here, and would be, I think, in America, if protected the first winter. It is a first-rate plant. *Rhododendron calophyllum*, one of the Himalayan group with large white flowers borne in clusters, was admired by many, though unfortunately it is only in large conservatories that it and its congeners can be grown successfully.

In his paper on Orchid-culture Mr. Veitch reviewed the history of the art from Philip Miller's time, when the Vanilla was the only exotic Orchid known in Europe, till the present day. He contrasted the difficulties under which our forefathers labored, owing to the want of knowledge as to the natural conditions under which Orchids grew wild, with the present system of culture when we have tolerably precise information of the conditions we have to imitate. Notwithstanding the marvelous results we obtain now, the essayist considers that we have a great deal to learn, and that our knowledge and practice will be progressive. Without entering upon the details of culture, Mr. Veitch asserted that successful Orchid-culture must depend upon carrying out a few main principles, the chief of which is abundance of light, ventilation with the minimum of artificial heat. The speakers in the discussion which followed, including Sir Trevor Lawrence, Baron Schroeder, Sir Charles Strickland, Dr. Masters, Mr. Dyer and Mr. Morris, all corroborated the correctness of the principles laid down by Mr. Veitch, and one related a fact in regard to a certain fine specimen of *Vanda cærulea* which for some years won for itself much glory at the London shows, because it had received cool treatment from its cultivator, but when it was sold and sent to America it died the year after, presumably on account of being warmly treated. Some discussion arose concerning the future means of naming Orchids, since Dr. Reichenbach is dead. The director of Kew has intimated that he is willing to put the establishment of Kew at the service of orchidists in this respect, and, considering that the Kew Herbarium is rich in material and embodies Lindley's full Orchid collection, it is hoped that not much inconvenience will result from the action of the professor who, in his eccentric will, stipulates that his herbarium is to be sealed up for twenty-five years. The chief regret is that the Reichenbach collection contains so much material that we cannot hope to be collected again, especially the fragments that were contributed to it by travelers who sought Orchids in untrodden regions, but could not gather living plants.

London, June 12th. *W. Goldring.*

Cultural Department.

The Strawberry Season of 1889.

THIS spring Strawberry plants appeared to have wintered well, and early indications seemed favorable for a fine crop of fruit; blossoms were abundant, the fruit apparently well set, and frequent rains seemed to furnish all requisite moisture, but as they began to ripen the blight or brown rust put in an appearance with more fatal effect than usual. Few varieties escaped entirely, although some were less seriously affected than others. I find that among amateurs as well as among market growers there are many who do not know what is meant by this term "blight," and when asked if they are troubled with it, reply in the negative. It appears in brown spots on the leaves, stems and fruit-stalks, destroying the circulation; the stems and calyx die, and the fruit ripens prematurely, with a poor, indifferent, and sometimes bitter, flavor. The mildew that sometimes effects the foliage is an entirely different thing. This rust, or, as generally called, blight, has troubled me for years. Last year I planted my Strawberries on entirely new ground, in the hope to escape this scourge, but it was of no avail; some varieties were so badly affected that they were picked but once, and this season it was nearly as bad. Some varieties are seemingly more susceptible to its attacks than others, and I have thought that this might be due to impaired vitality resulting from cultivating a variety a long time, but I find new varieties, young and vigorous from the hands of the originators, are sometimes as readily affected as the older sorts. I have some of the new varieties now on trial that have been introduced during the past two years, with the usual accompaniment of testimonials and praises in the superlative degree, that are absolutely worthless here on this account. One of these, in particular, sent to me for trial a few years ago, gave much promise for productiveness, and last year I gave it the best possible chance by planting it on the ground where Strawberries had never been grown. But the rust developed to a greater extent, if possible, than on any others. It is an entire failure, and I infer that the liability to attack is due to a constitutional weakness, rather than to the age of the variety.

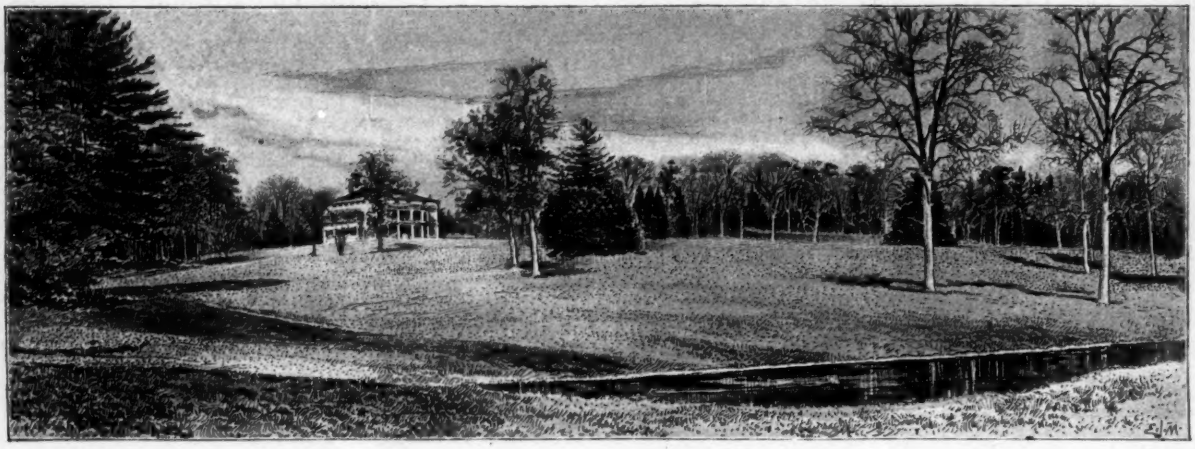
My old favorite, the Downing, the best berry, taken all in all, that I have ever grown, and the one I have grown longer than any other, has become so seriously affected that it must go. I gave all a spraying with sulphate of copper this season, but the application did no good, possibly because made too late. Last fall I happened on a bed of Downings on new ground three miles from here. They were so vigorous and healthy I hardly recognized them, and I felt hopeful that the owner would be able this season to show the Downings as I used to grow them. But I found later, to my disappointment, the enemy had found them also, and I have concluded to surrender my favorite and confine my planting to such as seem to possess greater power of resisting the fungus.

As soon as I discover a variety which seems to have any special liability to this disease it is at once rooted out, lest it become a breeding-place of the fungus. This scourge is annually spreading, and it is only by such caution that we can hope for any relief. The mycologists of the country are said to be studying the disease, but as yet no satisfactory remedy has been reported.

The first ripe berry I picked (May 30th) was from the Pearl, and the following day the Jessie yielded its first specimen. Of the former I formed a very favorable opinion last season, and another year's experience confirms this view. The berry is handsome, perfect in shape, conical, very uniform in appearance and of good size; the calyx is easily removed, and the

quality is very good. It compares favorably in all respects with the Jessie. The Jessie may possibly produce a few larger berries, from a tendency to irregularity not shown by the Pearl, but, in other respects, it shows no superiority here. It shows, also, a tendency to uneven ripening not seen in the Pearl. Both have a liability to blight to some extent, but I shall retain them as leaders for another season. Prince (Durand's) is the standard of excellence for quality by which others are judged. It is not quite as productive as is desirable, but it makes up in quality for its shyness in bearing. It rusts some, but I hope this tendency will not be so apparent when its more susceptible neighbors have been discarded. Jersey Queen, the Prince's twin-sister, is more vigorous and robust in habit and produces larger berries, more of them, and of more acid flavor. It rusts somewhat, but I shall keep it a little longer.

Sharpless, the largest of all and the most deformed, is not very productive, and rusts and rots so badly that it must go.



Belmont.—See page 326.

Davis, a reproduction of Sharpless, shares the same fate. Jewell, which made such a splendid record with Mr. Augur, its originator, and promised well here, rusts so badly that another season closes its career with me. Gold, Dewey and Acme are discarded this season from the same cause. Atlantic follows, and the worthless Cahansey. I have petted and coaxed these varieties in vain attempts to develop their good qualities and they utterly fail to respond.

Belmont proves unproductive here and ripens unevenly, otherwise it would be a very desirable kind, as it possesses size, quality and good looks. I shall retain it in place of Sharpless, another season, at least. Cumberland Triumph is a good-enough family berry, but its capricious fruiting and liability to blight renders it uncertain. Burt, sent out last year as likely to supersede the Wilson, proves more healthy and desirable than that old variety ever did with me. It remains healthy so far, but seems lacking in productiveness. The fruit is of fair size, solid, and so acid that it makes an unusual demand upon the sugar-bowl. Ohio looks and tastes so much like the Champion as to suggest the suspicion that it is the old variety re-christened or reproduced. Louise, sent out last season, has thus far shown no quality that encourages a hope that it will prove an acquisition on my soil.

The most promising of the new varieties I have yet tried is the Bubach. The berries are large, bright, smooth and handsome. It appears to be both vigorous and productive—two desirable features in a Strawberry—and the quality is fair to good.

If quantity and vigor alone were wanted I should name the Crescent as a most satisfactory variety, but amateurs generally want something a little better. Strawberries, owing to their delicate texture, ought to be grown very near the point of consumption, and consumers who would secure the very finest flavor should never buy a berry that has been carried far or picked long. While our markets are supplied with stale fruit grown hundreds of miles away, bruised by transportation, and so far on the road to decay that it must be sold at once, it will be difficult for local-grown fruit to command prices that will afford profit to the producer. Consumers have become so used to low prices that two or three cents' advance for a fresh, superior article is looked upon as an extortion. The fraudulent baskets, five of which will hardly hold four honest quarts, have also an influence in depressing prices, for not one buyer out of ten observes the scant measure. The way to get the highest satisfaction out of this luscious fruit is to grow it well at home. If that is not possible, then buy only freshly-picked berries grown near at hand.

Montclair, N. J. *E. Williams.*

Some Hardy Ferns.

OF the many species and varieties of Ferns (over forty) in New England, nearly all are desirable for cultivation. All are hardy, that is, against cold weather, and many of them may be grown as easily as any of the hardy plants. The beauty of their foliage, which lasts with most of them, from early spring until it is killed by frosts in autumn, and even through the winter with a few which are evergreen makes them invaluable as hardy, ornamental plants. There are, about most country homes, bare shaded corners, too shady for grass to grow, where these Wild Ferns would thrive and might be permanently established. One of the most desirable species is the Ostrich Fern (*Onoclea Struthiopteris*). The plant varies much in size, according to location. The finest specimens we have seen were growing in the bottom of a cool, half-shaded ravine. The fronds were fully five feet in length by ten inches wide, and of a beautiful light-green color. It is an easy plant to grow in either sun or shade if in moist soil, and it may be planted in spring or autumn. Another valuable Fern often found with the Ostrich Fern, but a rarer kind, is *Aspidium Goldianum*. This beautiful Fern grows nearly as tall as the former, with broader fronds, often a foot or more in width and of a darker green color. It is usually found in the shade and likes a moist, sandy or gravelly soil.

The Cinnamon Fern (*Osmunda cinnamomea*) and *Osmunda Claytoniana* are both valuable species, with large, broad fronds, often over five feet high. They are not difficult to grow in moist soil and will thrive in either shade or sun.

The Royal or Flowering Fern (*O. regalis*) is the prettiest of the three with finer, and more divided foliage, quite distinct from the others in its general appearance. Its height is from two to four feet. We have in Vermont a finer form with narrower foliage which English dealers sell as *O. gracilis*.

Phegopteris hexagonoptera, one of the Beech Ferns, is a small plant six to ten inches high, with triangular fronds of a light-green color. It is an easy Fern to grow in half-shaded corners. *Phegopteris polypodioides* is somewhat like the preceding, with smaller and darker fronds and grows in dense tufts. It is readily established in moist, shady ground. *P. Dryopteris* the most common of the Beech Ferns, is a delicate little plant seldom over six inches high with triangular fronds four to six inches wide. It does best in peaty soil along the boarders of swamps, but it can be grown in any moist and shady corner.

Woodsia Ilvensis is a little low Fern growing in tufts seldom more than six inches high. The fronds are chaffy and hardly an inch wide. It is generally found on exposed rocks, but may be grown in moist, shaded soil. It is a valuable Fern for the rockery.

The Maiden-hair Fern (*Adiantum pedatum*) is one of our prettiest species, and larger numbers of this are exported to Europe than any other. It grows in tufts, about a foot high, and fine, strong clumps of it are very beautiful. It is not a difficult plant to grow, but should be set in autumn.

Asplenium Trichomanes is one of the prettiest of the smaller Ferns and not difficult to grow. It is found in tufts on shaded cliffs, but we have grown it in moist, loamy soil in the shade. It is a fine plant for sheltered corners of the rockery.

The common Wood Fern (*Aspidium marginale*) is a pretty plant and its fronds are evergreen. The plant is generally about eighteen inches high, and grows naturally on rocky hill-sides, in the shade, and in low woods. It can be successfully grown on any ordinary soil in the shade.

The Walking Leaf (*Camptosorus rhizophyllus*) is a low, evergreen Fern, growing in dense mats or tufts on shaded rocks. In the right location it spreads very rapidly, but it needs shade. We have seen it successfully grown in the shade in fine, loamy soil with ordinary culture, but for its best development it needs a light, moist soil.

Charlotte, Vt. *F. H. Horsford.*

Orchid Notes.

Lælia Amesiana.—This most beautiful and rare hybrid is now in flower with us. It is the result of crossing *Cattleya maxima* with *Lælia crispa*, and is a great improvement upon both. In habit it much resembles *C. crispa*, though by no means so strong. It is a robust, free-growing kind, producing four to five flowers on a peduncle, though larger plants may produce more. They are about six inches across, the narrow, white sepals tinted with purple, which is more intense on the broader undulate petals. The lip is beautifully crisped with a pale margin, while the front lobe is a rich purple which is extended into the throat. This species is of recent introduction, and is as scarce as it is beautiful. It is named in compliment to Mr. F. L. Ames, of Boston.

Brassia verrucosa is an old and well-known Orchid which produces many-flowered racemes of curious flowers with attenuated sepals and petals of pale green, dotted near the base with dull purple. The spreading lip is white, marked with the green, wart-like excrescences which give the specific name to the plant. It is a native of Guatemala, and is particularly easy to grow in open soil of peat and moss, the temperature of the intermediate house suiting it best. At this season of the year its flowers—though by no means showy—are welcome, and their grotesque appearance always attracts attention. There is a strong-growing variety with superior flowers called Grandiflora.

Dendrobium moschatum is a very strong-growing, evergreen species introduced from India more than sixty years ago, and formerly to be seen in nearly every garden, where stove-plants were grown. The best grown plants I have yet seen were trained to the roof of one of the old-fashioned stove-pits, and subjected to the strong, dry heat of a brick flue. Under this treatment the immense bulbs were thoroughly ripened, and produced every year a tremendous crop of bloom which hung from the roof like bunches of grapes. Of late years this old plant has had to give way to newer and more showy kinds, and is now seldom seen. The bulbs are very stout, six to eight feet long, furnished with oblong, ovate, leathery leaves. The flowers are produced in pendant racemes about a dozen in number, usually from the sides of the leafless bulbs. They are about four inches across, creamy-buff suffused with rose; the slipper-shaped lip is pale yellow, ornamented with two large blotches of dark purple. They last about a week. This is one of the easiest Orchids to grow, preferring strong heat and abundance of water during growth. A long rest with good exposure to sunlight will insure abundance of flowers. If pot-bound, liberal applications of liquid manure will be beneficial.

Anguloa Clowesii is a Colombian Orchid found at medium elevations, and does best when treated as an intermediate. A compost of peat and loam with chopped leaves, with plenty of sand, suits it, and so do an abundance of water and air during growth, and a long and somewhat dry rest. It is a large-growing kind with oblong, ovate bulbs and plicate leaves about two feet long. The scapes are produced from the base of the young growths, and bear a single, large, Tulip-like golden-yellow flower, with a pure white lip and very fragrant.

Kenwood, N. Y. *F. Goldring.*

Savoys for Winter.—For home use the coarse Drumhead class of Cabbages should be discarded for the more delicate Savoys. The Netted Savoy is best, but the American Drumhead Savoy is larger and fairly good. I set the plants generally upon a strawberry-bed after the fruit has been gathered, burying the strawberry-sod deeply with a large plow. Then a heavy coat of fine stable-manure is spread over the plowed surface, which is harrowed lightly, and rows are cut to set the plants three feet apart each way. In all late summer crops in the garden it is better to spread the manure on the surface after plowing, and keep it there by shallow culture. It thus serves the double purpose of a fertilizer and a mulch. If stable-manure is not to be had good raw-bone or bone-black superphosphate, at the rate of about 1,000 pounds per acre, is the best substitute. As soon as the plants recover from the transplanting, cultivation should begin, and the surface should be kept constantly stirred. There is an old superstition that Cabbage must not be cultivated during dog-days, but the only time when cultivation should be suspended is when the leaves are wet with dew or rain. To keep off the Cabbage caterpillars we use Pyrethrum, the *Pieris rapæ*, which come first. The later enemies are the larvæ of *Plusia brassicæ*, which generally come in larger numbers, and are so much more difficult to destroy, that of late years we have given up the fight, and try to encourage such a rapid growth of the plants that the caterpillars cannot keep up with the increasing heads. For this purpose we use nitrate of soda, mixed with superphosphate, scattering about 100 pounds per acre at two applications, just before working the plants. Its effects are wonderful in promoting a rapid growth, and we generally succeed in outwitting the worms and making a crop in a good season. Here we defer planting our Winter Cabbage until late in July, to avoid the Harlequin Beetle. This insect has not been troublesome in the north yet, but here it is the worst mid-summer pest we have on Cabbage. Every leaf attacked withers as though fire had passed over it. North of Virginia Winter Cabbage had better be planted the first week in July.

Crozet, Va. *W. F. Massey.*

Orchids in New Jersey.—Although small in comparison with the area of many other states, New Jersey possesses a surprisingly rich flora of its own. Its shady hill-sides and extensive swamps are peculiarly adapted to the growth and reproduction of the various members of the Orchid family indigenous to the eastern States. I have found places in shady woods where *Cypripedium pubescens* and *C. parviflorum* were found covering acres of ground, the fragrance of their flowers being especially noticeable. This I have never found so pronounced when plants were grown in gardens. These two plants are found growing in clumps together here, and it would appear as if the one might be a minor form of the other. *Orchis spectabilis* is plentiful in the same locality, and so are *Habenaria Hookeri* and *H. orbiculata*, all thriving luxuriantly in the rich vegetable mould, the result of ages of growth and decay. *C. acaule* grows on lower levels, and appears to thrive best in a

Oak Woods at Belmont.—See page 326.

drier soil. Just what this plant needs to keep it in cultivation we have never been able to ascertain. During the past few days I have found whole colonies of *Pogonia ophioglossoides* and *Calopogon pulchellus*, the former noticeable for its exquisite sweetness and the richly-marked lip, while the Calopogon could be distinguished at a long distance by its purple flowers, an inch and a half in diameter. If these two plants were exotics how they would be sought and appreciated. The same may be said of *Cypripedium spectabile*. This plant is found near Lake Hopatcong, and is said to be quite plentiful, though we never had the good fortune to find more than a few plants. *Habenaria fimbriata*, *H. virescens* and *H. lacera* are now in flower. The two latter have inconspicuous green flowers, and are often passed by unseen. In July and August the orange-colored *H. ciliaris* will be at is best. I shall never forget the impression made by the first glimpse of a swamp of many acres tinged over with the bright golden-yellow of the Fringed Orchis. The plants were found growing literally by the thousand, and showed considerable variation in the color of their flowers. *H. tridentata* and *H. psycodes* are also found at the same place and time. I have seen quantities of *Arethusa bulbosa* that were collected near here in New Jersey, but tried in vain to learn the locality, and although it is quite plentiful in some parts of the state, it has never been my good fortune to find it. Last year I found one plant of *Habenaria rotundifolia*, which is rarely seen so far south. This year I sought it again, having carefully noted the spot, but it was gone. Some zealous collector had probably found it and taken it away.

Passaic, N. J. *O.*

Scabiosa Caucasica is a first-rate hardy perennial, with beautiful flowers of a fine shade of blue, and should be more commonly grown. Frequent complaints are made that it is a difficult plant to establish, but with proper care it will grow vigorously in any deep border. Probably the failures result usually from careless shifting of seedlings, which, even in a young stage, have a long tap furnished at the lower end with fine feeding roots, which one is apt to strip off if not careful in breaking out of the seed-bed, the result of which is total failure of the plants to grow in their new quarters. It is well in planting seeds of this plant to use a good depth—say six inches—of light soil, so that the fine roots may have full run and be readily lifted without stripping.

Tridax bicolor, var. rosea is a pretty new composite introduced to cultivation in 1888 from north-eastern Mexico. It is a half-hardy annual, forming a neat, erect, much-branched bush about two feet high. The flower heads are borne well above the ovate foliage singly on long footstalks, and are from half an inch to one and three-quarter inches in diameter, of a pleasing rose color, the disk florets being yellow. It is very floriferous, continuing in bloom till frost. The typical *T. bicolor* has the ray florets pure white.

Border Carnation, Paul Engelheart, is a variety discovered in a cottage garden by the well-known amateur, Mr. Engelheart, and introduced last year. It is a very vigorous variety, with strong, wide leaves, the flowers being of a rich shade of deep crimson, fragrant and plentiful, borne on stout, erect stems, only eight to nine inches high, and requiring no stakes, a merit which will be appreciated by any one who has had to do with garden Carnations, which are mostly of lanky growth, and if unstaked or staked are usually equally unsightly. Among the series of Carnations in my border this neat dwarf variety is certainly the most sightly and satisfactory. It is to be hoped that we may be able to secure other colors with some habit.

Elizabeth, N. J. *J. N. Gerard.*

Notes from the Arnold Arboretum.

SOME of the small-fruited Vines are attractive and useful ornamental plants. There are three east-Asiatic species found in gardens in this country, although they are not at all well known, and there is everywhere, judging from the different names under which these plants have been sent to the Arboretum from European gardens, the greatest confusion about their names, which are often interchanged.

The first of the three species to be considered is *Ampelopsis heterophylla*. This is a widely distributed, but not very variable, plant from Manchuria, Mongolia, and through China to Japan. It is a vigorous and hardy climber. The stems attain here a height of ten or twelve feet or more, with ovate or slightly-lobed leaves, or sometimes deeply three or five-lobed with deep, broad sinuses, the bases rounded, cordate or almost truncate. They are smooth above; the under surface of the mid-rib and primary veins covered with stout hairs. The flower-cymes are corymbose, long-stemmed and widely branched. The fruit is the size of a pea and bright blue when ripe.

There is a Japanese variety with variegated foliage, often found in gardens, under the name of *Vitis Sieboldii*. This is the *V. elegans* of Koch, and the *V. vinifera foliis variegatis* of Neubert. The leaves of this form have deep, broad sinuses. The north China variety with slightly lobed leaves, somewhat cordate at the base or those near the end of the stems, with three or five broad lobes, is *Ampelopsis humulifolia* of Bunge, figured in the *Botanical Magazine*, *t.* 5,682. It is the *Vitis Regeliana* and the *V. orientalis* of Hort. Kew; at least plants of this species have been sent to the Arboretum from Kew under these names.

The second species is *Ampelopsis serjaniæfolia*. This is a very distinct and ornamental species, easily recognized by the broad wings on the leaf-stalk between the leaflets. It is a native of north China and Japan, and has been described under half a dozen different names. It has smooth, rather slender branches climbing here eight or ten feet high, palmately five- (or rarely three-) foliolate leaves, with narrow, trilobed and incisely cut leaflets, dark green and lustrous on the upper and somewhat paler on the lower surface. The cymes are dichotomously divided, and the fruit is small, the size and shape of a pea, pale violet-blue with darker blue spots. It is the *Cissus viticifolia* of Siebold and Zuccarini, the *Vitis pentaphylla* of Miquel and the *Ampelopsis napæformis* and *tuberosa* of Carrière.

The third species, *Ampelopsis aconitifolia*, of north China and Mongolia, may be distinguished from all the Vines of eastern Asia by its nankin-colored fruit. It is a slender plant, with three to five-lobed leaves, which are often divided into three to five palmately disposed leaflets. The leaves are cuneate at the base, sharply and unequally dentate, dark green and glabrous on the upper surface; the lower paler and hairy on the mid-rib and primary veins. The cymes are long-stemmed and several times dichotomously branched. The fruit, rather larger than a pea, is nankin-colored.

There is a form in which the leaflets are divided into narrow, acuminate lobes, which is as hardy and even more ornamental than that with broader leaflets. It is the *A. dissecta* of Carrière; and it is this variety upon which, according to Panchon, in the Monographs of DeCandolle (v. 2, 459) the species was first established by Bunge, and which was found by the Abbé David in Mongolia.

Cissus Japonica, a native of Japan, the East Indies and Australia, with immense tuberous roots, and annual stems climbing four or five feet high, has stood uninjured in the open ground during the past winter, and appears to be perfectly hardy. It is rather a botanical curiosity than an ornamental garden-plant.

Two of the small-fruited North American Vines are admirable garden plants also. *Ampelopsis indivisa* is the species most commonly found in gardens. It is a high-climbing, glabrous vine with ample, heart-shaped, coarsely-serrate, rather thin leaves, and small, loose panicles of small flowers; the fruit about the size of a pea. It is a common plant along the banks of streams from Virginia and the Ohio southward, where its graceful branches may be seen draping tall trees and hanging down over the water. It is perfectly hardy here, and perhaps the best plant of its class in this climate.

Ampelopsis bipinnata is a more ornamental species, with twice pinnate or ternate leaves, the leaflets sharply cut-toothed and small obovate fruit. It is a more southern plant than the last and is not, unfortunately, quite hardy here, although in the neighborhood of New York it succeeds admirably. Less vigorous than *A. indivisa*, it is rather inclined to be shrubby in its habit of growth.

Clematis Eriostemon is one of the hardiest and most satisfactory plants of this genus here. It produces long, woody stems destitute of tendrils, sometimes eight or ten feet long. The stem leaves are pinnate, with three pairs of lateral, entire, oval, three-nerved leaflets, and a terminal leaflet often lobed and long petioled. The leaves on the flowering shoots are sessile, simple and entire. The dark-blue flowers are long-peduncled, about three inches across, and appear in succession during two or three months in the greatest profusion, completely covering, sometimes, the plant from a point near the ground to the extremities of the stems. The origin of this charming plant, which was first described under this name by Decaisne in the *Revue Horticole*, 1852, p. 341, with portrait, is entirely unknown. M. Lavallée, who introduced an excellent figure of it in his "Les Clématites à Grande Fleurs," suggests that it is, perhaps, of American origin, but this is hardly possible. It is an old inhabitant of gardens, where it has been cultivated as *C. Hendersoni*, *C. Chandleri* and *C. Poizati*. In

England it has been considered a hybrid between *C. viticella* and *C. integrifolia*. But whatever its origin, it is a far more desirable plant in this climate than any of the more modern and now more fashionable, larger-flowered varieties, which, with few exceptions, have here proved themselves short-lived and very unsatisfactory.

June 27th. *J.*

Correspondence.

Forests and Civilization.

To the Editor of GARDEN AND FOREST:

Sir.—I have recently asked several of the thoughtful men of our country for some expression of their interest in forestry subjects, and have just received the following letter from Professor C. E. Norton, of Harvard University:

"Dear Mr. Harrison:—The strange, hideous, barbaric spectacle which the rush to Oklahoma has presented during these last weeks affords the clearest proof that the work in which you are engaged, of endeavoring to rouse the conscience of our people to a sense of the prevalent misuse and waste of the natural resources of the country, is of prime, national importance, not only from the material but also from the moral point of view. Were the proper use of these resources understood there would have been no such scene of savage struggling to gain possession, by fair means or foul, of the fancied advantages which this territory, now for the first time open to settlement, is supposed to offer.

"It is now many years since the late eminent George P. Marsh, in his most interesting and instructive work on "Man and Nature,' demonstrated the fact of the calamities and desolation which had fallen upon many once fertile regions of the earth through the ignorance and reckless disregard of man, in dealing with the soil, of the laws by which its permanent resources for human support are maintained and replenished. His demonstration fell for the most part upon deaf ears. Never has the waste of what should be the permanent, inexhaustible fund of a nation's prosperity been exhibited on so wide a field as in our own country during the past twenty years. We have been living like spendthrifts, flinging away treasures slowly accumulated during the past without consideration of the rights and interests of future generations or recognition of our responsibilities toward them. We have used the goods of Nature as if we were sole and absolute owners of them. We have behaved like fraudulent trustees. A people can only justify its claim to be called civilized by so using the free gifts which it has received from Nature and its own predecessors as to transmit them undiminished and improved to its successors.

"All good men, all men who love their country and who desire that the democracy of America should set an example of rational, manly, intelligent and moral national life, must desire your success, as the agent of the American Forestry Congress, in the work which you have undertaken.

With the highest regard, sincerely yours,

"Cambridge, Mass. C. E. NORTON."

I should like, with your permission, to write a series of notes on forest interests and affairs in this country, with allusions to contemporary journalism, literature and life. There is always occasion for vital and discriminating discussion of these subjects, and the need of it increases of late. For many years I have observed the course and methods of action of the people of the United States in their treatment of their forests and woodlands, and have studied the disappearing woods themselves, in nearly every part of our country, with deep interest in the relation of the forests to our national civilization and development. I remember many years ago when I began to talk of this relation, even men of a high degree of general intelligence often asked, "What have forests to do with civilization?" Since the establishment of this journal the idea has been more definitely presented, and such a relation has been generally recognized in the discussion of forestry subjects in these pages, but the idea is still unfamiliar and needs further development.

It is not wonderful that people do not readily receive the notion of such a relation, for the popular ideas of civilization, and of nationality itself, are extremely nebulous, incoherent and inadequate. A nation should be a vital unity—a population organized for intelligent co-operation for the attainment of worthy practical ideals. The sentiment of nationality, or what is called by that name in our country, is still superficial and indefinite, with little vital relation to the present time, and our national life is in great degree inorganic, made up of scattered nuclei, and without common direction. We are wanting in some of the elements which are necessary to the persistence of national individuality. Our "magnificent vitality," to use the phrase of the centennial orators, lies all abroad, and is, thus far, not able to come to time, or to get down to the serious business which requires our attention. The principal adequate and manly thing which we have done as a nation, the fighting out of the great controversy over slavery, though inevitable, was largely of the nature of an accident, something apart from the natural and essential continuity of our national life and history.

The Civil War has already become, to a great extent, a part of ancient history. Its lessons have little relation to the needs of our time, and the fact that "we put down the Rebellion" does not render it certain that the problems of the present and the future will solve themselves, or that the enemies which now threaten our national prosperity and success will be frightened out of our path by the shouts with which we celebrate past triumphs. We may have a splendid destiny before us, but it will not be the product of our present national temper or character, nor the result of the methods which now prevail in our national house-keeping. Nothing splendid lies along the roads upon which we are now mainly traveling.

As to civilization, it does not appear that those who talk of it most boastfully have thought much about what it is, in what it consists, or how it may be maintained and carried forward. They never have anything definite to say about it. The popular optimism may have a basis in reality, but its prophets have no liking for scientific methods of inquiry. They are either incapable of analysis, or they regard facts with contempt. If our people had the idea of nationality, and a definite perception of what constitutes civilization, they might be brought to see clearly the relation of the nation's forests to its development and welfare.

There is a great deal of talk about forestry in this country, but I cannot find out that we have much of the thing itself. Forestry is an art, and it can be learned only by practicing it, and it can be practiced only where there are forests to be administered or cared for. The art has not been practiced in this country. The only forests in which it could be illustrated and practiced, and thus learned, are neglected, outrageously abused, and as rapidly as possible destroyed, so that we have here no means, material or opportunity for training young men in a real knowledge of forestry. We have some admirably equipped dendrologists, but forestry in the United States is a matter of talk, of Arbor Day oratory and essays at Forestry Congresses. We shall build nothing valuable on a basis of unreality, and to clear the ground of misconception and illusion is usually a necessary beginning for any serious work or real advance.

J. B. Harrison,
Cor. Sec. American Forestry Congress.

Franklin Falls, N. H.

The Choice of a "National Flower."

To the Editor of GARDEN AND FOREST:

Sir.—It has not seemed to me that the question of a "national flower" for the United States, so widely discussed in the press, had a very serious interest either for patriots or for flower-lovers. Of course, if we could choose and bring into general use a floral emblem of the right sort, it would conspicuously enrich the sentimental side of our lives; and, of course, it behooves every patriot as well as every lover of Nature to regard this side. No one questions that a flag is a precious, indeed an indispensable, national possession, or can fail to see that ours is all the more valuable because of the symbolic significance of its stripes and starry field. The utility of such an emblem as the eagle is also plain, for we must have some device to serve in a coat-of-arms and to ornament a multitude of "official" articles. If a flower could be added to the flag and the eagle it would serve more than one end they do not meet, and would be especially valuable as an element to introduce into our decorative art. What a blank would be left in the art of France were the Fleur-de-lis expunged! What a boon would it be to the American decorator had he some such consecrated type ready to his hand!

Nevertheless, the current discussion has seemed without much point, for, discuss as we will, how are we to choose our flower? There is no prince to hand it over to us, already encircled with a halo of significant associations; it seems most improbable that any popular assembly, charged with the settlement of important national affairs, will put the question to a vote, and such an assembly is our only substitute for the personal ruler of old. A flower might have been selected when the flag and the eagle were chosen; and chance may some day give us one, in some great national crisis, when we are thinking least about it. But to choose deliberately by "popular" voting, and then to impose the choice upon a nation so

immense and so widely scattered over different soils and under different skies—this seems, indeed, a hopeless effort.

Being hopeless—or seeming so to me—your readers may wonder why I speak of it at all. And yet I have a reason for speaking, the reason implied when I said at the outset that a national flower would be a valuable possession could we get one of the right sort. By this I mean that, even if it were perfectly easy to choose a national flower and bring it into universal use, it would be of next to no value if it were of the wrong sort; and the fact is important because, of the four flowers thus far "ahead at the polls," only two have any claims to be considered of the right sort. These four are the Golden-rod, which seems beyond all others to be the favorite; the Mayflower, which comes next; the Sunflower, and the Mountain Laurel.

In the many discussions and exhortations which I have read upon the subject, and in the reports of the preferences of famous individuals, there has been much mention of sentimental associations as dictating this choice or that, and also of facts of distribution and general familiarity. These questions have their importance, of course, but it seems to me that the primary consideration is an artistic one—has regard to the serviceableness of the proposed form as a type or model for artistic variation. Let me try to explain what I mean by taking each of the four favorites in turn.

The Golden-rod, in some of its protean shapes, is very widely distributed throughout the United States, and familiar enough to be beloved by all Americans; and though it grows in other countries it does not grow in Europe (unless as introduced in gardens), except in the higher parts of Switzerland. It has no associations, therefore, which unfit it to be our national emblem; and it is a good flower to wear on the person as a badge—individual, bright, pliable, graceful and lasting.

The Mayflower is likewise a characteristically American plant, with relatives in Asia but none in Europe. As regards sentiment, it has perhaps a higher claim than any of its rivals. Was not the first Pilgrim ship called the "Mayflower," and does it matter to the short memories of men that the name did not denote our Epigea, but undoubtedly the English Hawthorn? But the Epigea is a poor flower to wear—charmingly pretty when grown or even when massed in a large dish, but ineffective as a little spray—stiff in habit and very perishable; and, while it is very familiar in the eastern States, it is unknown "out West," and therefore has but a half-claim to adoption as a national flower.

The same lack of universality affects the claims of the Mountain Laurel. From North to South, eastward of Kentucky, it is very familiar, but our occidental regions know it not. Yet it is another true American, seen in Europe only in gardens; and it is a good flower to wear, while its evergreen leaves, with a distinctive character of their own, would be available at all seasons.

The Sunflower, like the Golden-rod, grows everywhere in our country, varying in different localities, but keeping its essential character throughout; and it is nowhere a native of the eastern hemisphere. But cultivation in this case has largely undone the favor which Nature did us in making this flower our own. It is so commonly grown in Europe that today it can hardly be called a true American. What would the "æsthetes" of England say did we exalt the Sunflower to be national emblem? And should we not feel like English æsthetes instead of American patriots, did we go about with a Sunflower on our bosoms? Seriously, whenever an American sees or hears of Golden-rod, Kalmia or Trailing Arbutus he thinks of his own country and of nothing else; but the case is very different with the Sunflower, and I think the difference seriously invalidates its claim to be adopted as an emblem of the United States.

Let us look now at the adaptability of these flowers to the designer's purposes. What we want is that it can be used, like the Lilies of France, on everything which man's hands can ornament; from a coin to a button, from a pennant to a carpet for the White House, from the capital of a column in a public building or the pedestal of a hero's statue to the binding of a copy of the census.

Of what account, now, is the popular Golden-rod for such purposes as these? To be rightly used in art a flower must be conventionalized, and to be conventionalized each head or blossom must have individuality and, so to speak, architectonic dignity. The flower of the Golden-rod has no individuality, when we stoop to study it; isolated from its fellows it looks precisely like numerous other flowers of the vast family of the Compositæ. And, moreover, we never do isolate it; the Golden-rod as we think of it is not a flower but a panicle of many minute heads, and to separate them would be to ruin the type, even had the heads each a more special character. The character of Golden-rod comes, in short, not from its flowers but from the way they grow; this loose, irregular way cannot be reproduced in strictly ornamental art; and a single little head used alone would look no more like Golden-rod than like Aster or Fleabane. Then the foliage of Golden-rod, while it varies very much in different species, is never really beautiful or individual or well adapted to use in the arts.

The Mayflower is a little better, yet it is by no means a good flower for the artist. It is not strikingly individual; it is ineffective; it is weak in form and somewhat trivial; it lacks the two indispensable qualities—dignity and special character.

The Sunflower is a cousin of the Golden-rod, and one of its great heads resembles in large the tiny head which we scarcely notice as such in a Solidago. But this increase in size and distinctness makes all the difference in the world as regards use in the arts. A Sunflower is a flower meant to be seen alone, and it is so formal, so massive, so stately that it could admirably serve every purpose of the designer. But the same unfortunate fact again confronts us. Modern "æstheticism" has made this flower its own, and so frequently reproduced it, with more or less artistic felicity, on a myriad objects of the most trivial sort, that it would seem absurd for the American decorator now to seize upon it, and for the American people to try to read into his reproduction any sign of patriotic meaning. Sunflowers on the base of a hero's monument or around the capital of a post-office column—the artistic effect might be admirable, but the sentimental effect would be entirely different from the one we desire. A generation ago we might have made this flower our emblem and rejoiced in its use. I fear it is spoiled for the purpose to-day.

But something still better is left us in the Kalmia. Here is a plant which neither art nor sentiment has touched as yet, but which seems to have been created for the artist's hand. Its leaves are so like those of the Laurel, which from time immemorial has been an artist's favorite, that its popular name has sprung from likeness; they are fine in outline, solid in aspect, and beautifully grouped on the stem, needing but a trifle of arrangement to fit them for the weaver's or the carver's use.

Still more beautiful, infinitely more individual, is the flower of the Kalmia in every stage of its growth. Look at the conical bud with its deeply-cut, symmetrical flutings, the admirable contrast between the upper and the lower portions, and the ten strong points where they meet; see how architectonic it is, whether viewed sidewise or foreshortened from the top. Look at the half-expanded blossom, where to these sculpturesque beauties are added the wide, deep, simple indentations of the lip; and look at the expanded blossom, a beautiful five-pointed star, with ten radiating stamens running each to its deep little cleft; and if anything beyond the artistic excellence of the form is asked, examine the artistic beauty of the color-markings. How easy it would be to conventionalize this blossom, seen from the inside or the outside, and how beautiful it would be, in paint or tissues or carvings, when thus conventionalized. Conventionalizing, indeed, is hardly the right word—Nature has done the artist's work in this case; the flower could be almost literally copied and be systematic and dignified enough. A temple frieze might be made as nobly beautiful with a Kalmia pattern as with the Lotus of the Egyptians or the Honeysuckle of the Greeks, and with far less deviation from actual portraiture. So, too, on woven stuffs it might be as effective, almost, as the Fleur-de-lis of France, and again with much less change—for the Fleur-de-lis has been changed so greatly that we cannot be quite sure whether it really means an Iris, as is generally thought, or some other related flower. Indeed, I can think of no flower which in its various stages offers so many quite admirable types for artistic treatment as the Mountain Laurel. Turn back now to the Golden-rod and the Mayflower, compare them with the Lotus or the Honeysuckle or the Fleur-de-lis—what must the verdict be? It is, or should be, a decisive verdict against them both as proper to be chosen for a national emblem. Why did the Violet of the Napoleons never impress itself upon national sentiment like the Valois Lily, and never enter into national art? Why was the place it should have held in art taken by the Napoleonic bee? Simply because it was not susceptible of artistic treatment. It is pretty, but it has no dignity; it is graceful, but it has no "form" in the artistic sense, no architectonic, sculpturesque character. This the Kalmia has. If the fact is not so immediately apparent in its case as in the case of the Lotus or the Iris, it is because the blossom is smaller and few people notice characters which are not boldly thrust upon their eyes. But size means less to the artist than "form," "character,"—and no flower in the world has these in greater perfection than the Mountain Laurel.

If, then, we really want a national flower, and if there is really a way to decide upon it, could not the one deficiency of the Mountain Laurel—the fact that it is not universally distributed throughout our country—be overlooked because of its manifest superiority in other points? The Great West has taken much that pertains to national life from the East. Could it not be persuaded to take a national flower as well?

New York. *M. G. Van Rensselaer.*

Squirrels and Conifers.

To the Editor of GARDEN AND FOREST:

Sir.—Several correspondents of GARDEN AND FOREST, whose opinions are certainly entitled to consideration, hold the red squirrel responsible for cutting off and scattering the twigs of the Norway Spruce. The red squirrel does a good many curious things, apart from the heinous offenses he perpetrates upon his larger black and gray cousins.

In the cases cited it may be that owing to the mildness of the past winter the red squirrels were more active than usual, and having exhausted their supply of nuts, turned more particularly to the Spruce cones for food. The squirrel does not dislike a cone when he cannot get his nut. Indeed, the nurseries would be without the *Sequoia gigantea* to-day were it not for the squirrels, who cut the cones off from the Californian big trees, the seeds of which were otherwise unobtainable. Thoreau refers in several instances to the squirrel's manner of plucking and stripping a Pine cone. "He does not prick his fingers, nor pitch his whiskers, nor gnaw the solid cone any more than he needs to. Having sheared off the twigs and needles that may be in his way (for, like a skilful wood-chopper, he first secures room and verge enough), he neatly cuts off the stout stem of the cone with a few strokes of his chisels, and it is his. To be sure, he may let it fall to the ground, and look down at it for a moment curiously, as if it were not his. But he is taking note where it lies, that he may add it to his heap of a hundred more like it, and it is only so much the more his for his seeming carelessness."

This would bear out the theory of several of your correspondents, were it not for three reasons—the torn or mangled, not cut, appearance of the tangled twigs; the many fallen twigs beneath trees where no cones, or hardly any cones, exist, and the scattered twigs in masses where there are no squirrels in the near vicinity. These scattered twigs are repeatedly noticed beneath the Norway Spruce during early spring, and late in April they might have been seen in quantities on my neighbor's lawn beneath his patriarchal Norways. The same state of things is observable in the case of the White Pine. As the red squirrel works by day, he would be seen, and if not seen he would be heard were he the spoilator in these instances. It is to be noticed, moreover, that the trees underneath which the scattered twigs exist most numerously stand most exposed to the wind, and that the side of the tree facing the west is noticeable for the quantity of dried and bruised twigs upon the tree.

If we consider for a moment the fury of the wintry gale, especially when the limbs of the tree are coated with ice and lashed one against the other for hours, the cause of the scattering of the twigs and needles will, in most instances, I think, be apparent as due to high winds, and not to a rodent's tooth.

Rochester, N. Y. *George H. Elkwanger.*

[We have received several other letters on this interesting subject; but it may be well to refer the writers to the original article on page 111. It was there stated that squirrels, both gray and red, had been seen to cut off the small twigs of the Norway Spruce in order to get at the terminal and lateral buds (not the cones), the heart of which they dextrously extracted. Examination of the twigs on the ground last winter showed that in cases where the buds appeared sound the heart had been neatly taken out.—ED.]

To the Editor of GARDEN AND FOREST:

Sir.—Will you kindly inform the readers of your journal what is the proper treatment for the beautiful *Rosa multiflora*, described in the notes from the Arnold Arboretum, on page 309, and especially whether this plant should be cut back to induce free flowering.

Boston, July 1st. *W. W. C.*

[*Rosa multiflora* should be planted in rich soil, where it can have plenty of room to spread its graceful, arching branches without being interfered with by other plants. Young, stout shoots produce the best flowers, and their development should be encouraged by cutting off the flower-clusters as soon as the flowers have faded, and by shortening in the branches at the same time to induce the growth of lateral shoots. Old branches should be removed entirely after they have flowered during two or three years, to make room for more vigorous ones which will spring up from the roots of well-established plants. A plant of this species, generously treated, may be expected to grow six or eight feet high and ten feet through, and to be completely covered with flowers at the blooming period.—ED.]

To the Editor of GARDEN AND FOREST:

Sir.—I am glad to see GARDEN AND FOREST calling attention to the importance of preserving our national and state parks. The State of Wisconsin, in 1882, set apart some twenty or more townships in what was then Lincoln County as a state park. The scenery is bold and rugged. It is a land of heavy timber and lakes and running water—its natural features finely adapted to the purpose to which it was devoted. But last winter a bill was introduced near the close of the session to allow the Pine-timber to be cut, and to destroy the native beauty of the tract. I am glad to say that the bill failed. It was, however, a fair warning to the friends of forestry and state parks to be on the alert, for similar attacks will, no doubt, be organized year after year.

Evansville, Wis. *B. S. Hoxie.*

Recent Plant Portraits.

LÆLIA DIGBYANA MOSSIÆ, *Gardeners' Chronicle*, May 25th; "decidedly one of the most remarkable, and with equal certainty one of the most beautiful of the hybrids raised in the great Veitchian establishment by Mr. Seden." A hybrid between *Cattleya Mossiæ* and *Lælia Digbyana*.

CATTLEYA SKINNERI, *Gardeners' Chronicle*, June 1st; the portrait of a remarkable specimen with 200 expanded flowers.

PSORALEA PINNATA, *Gardeners' Chronicle*, June 1st.

PUCCINIA SCHRŒTERI, *Gardeners' Chronicle*, June 1st; this is the Fungus which is doing much damage among the Narcissus in some English gardens.

"It is sufficient to say that *Puccinia Schrœteri* is closely related to *P. malvacearum*, the deadly pest of Hollyhocks; and the life-history of the fungus of Narcissus agrees with that of the Hollyhock. Many species of Puccinia have a Uredo, or young condition, but no Uredo is known for either the Narcissus or the Hollyhock fungus. Neither has any æcidium condition been recorded for either; this being so, the readers of the *Gardeners' Chronicle* will understand that the spores of the Narcissus fungus germinate as soon as they are mature upon the host-plant, and produce at once new pustules of spores. The fungi to which the Narcissus fungus belongs produce many generations of spores in one season, and so make great havoc in gardens, as every one acquainted with the history of the Hollyhock disease knows only too well. Diseased plants should, of course, be utterly destroyed, if possible, but no amount of burning or burying will get rid of all the minute spores which are produced in hundreds of thousands upon every affected plant. The new arrival is not confined to one species of Narcissus; it has been recorded on *N. poeticus*. The fungus may be considered a very threatening one, but time only can show whether it will spread in Britain as did its ally, *P. malvacearum*."

ÆSCULUS SINENSIS, *Gardeners' Chronicle*, June 8th; a native of northern China, and a still imperfectly known species. The figure is from a specimen of the flowers produced in the establishment of M. Van Volxem, of Brussels, where it is probable that this tree has flowered for the first time in Europe.

CATTLEYA WALKERIANA, *Gartenflora*, June 1st.

CYPRIPEDIUM NITENS SUPERBUM (*C. villosum* × *C. insigne Maulei*), *Le Moniteur d'Horticulture*, June 10.

CHRYSANTHEMUM ULIGINOSUM, *Gardeners' Chronicle*, June 15; a hardy, decorative, autumn-blooming plant with large, white flowers.

AMORPHOPHALLUS TITANUM, *Gardeners' Chronicle*, June 15; this, the largest known of all the Aroids, has recently flowered for the first time in Europe, in the Victoria House at Kew. It is to be gathered from our English contemporary that Dr. Beccari discovered this wonderful plant in western Sumatra. "The tuber dug up by the doctor measured nearly five feet in circumference, and was so heavy that ten men could scarcely carry it. From this tuber only one leaf is produced; but what a leaf, to cover an area of forty-five feet in circumference."

The leaf-stalk is ten feet high, divided at the top into three branches, each as large as a man's thigh. The flower spadix is six feet long, and, altogether, this must be considered one of the vegetable marvels of the world.

BOUGAINVILLEA GLABRA, *Revue Horticole*, June 16.

Notes.

The first prize for cut blooms of double Lilacs at the Paris Exposition was taken by Messrs. V. Lemoine & Son, with flowers of twenty seedlings named and unnamed, and including the double white variety.

The programme for the Botanico-geographical exhibition which, as we have already announced, will be held in Antwerp during the summer of 1890, may be obtained from Monsieur Charles de Bosschère, Lierrelez-Anvers, Belgium.

According to the *Pacific Rural Press*, California has produced two new Roses of undoubted excellence this year. One, introduced by J. H. Sievers, is known as Rainbow, and the other, yet unnamed, was raised by E. Gill, of Oakland.

Mr. H. H. Rusby, well known as a botanist from his explorations in southern New Mexico, and later in South America, has recently been appointed Professor of Botany and Materia Medica in the New York College of Pharmacy, in this city.

A correspondent of the *Country Gentleman* writes that he once heard Dr. William Darlington, the well-known botanist, express the wish that the Tulip-tree (*Liriodendron tulipifera*) might be selected as our national emblem, both leaf and flower being distinct and beautiful.

A very interesting hybrid Philadelphus, lately bloomed at Nancy. It was produced by crossing *P. microphyllus*, the beautiful dwarf species with deliciously fragrant flowers, which is a native of the mountains of southern Colorado and New Mexico, with *P. coronarius*. The plant has been named after its originator, *Philadelphus hybridus Lemoinei*.

Among the bush Honeysuckles, *Lonicera Ruprechtiana* is now by far the most striking. Its abundant bright scarlet fruit, carried gracefully on arching branches, would make it one of the most desirable of hardy shrubs, even if it were not beautiful in general habit, foliage and flower. Its single fault is that the flowers lack perfume.

Cladrastis Amurensis, the Old World representative of our Yellow-wood, is blooming most abundantly this year, and as the specimens grow older the tree becomes more attractive. The foliage is very clean, the shape of the tree neat, and the spikes of flowers are fragrant and yield abundant nectar, as is proved by the constant hum of the bees, which visit this tree in great numbers.

English horticultural journals describe a splendid display of Tulips lately in bloom in the garden of Lord Arlington, at Crichton House. Twenty-four large beds were filled with about 15,000 bulbs, Crimson King and Yellow Prince being the only varieties used. This is but one sign among many that we have noted of late to prove that there is a growing tendency in England towards more simple and effective arrangement of bedding-plants than those which have hitherto prevailed. In the parks of London the Tulips are said to have made an especially attractive appearance this year, "although individually the flowers have not been so fine as in some seasons. . . . The advantage of having distinct beds of one color over indiscriminate mixtures of several shades is most conspicuous."

Mr. Roosevelt, consul of the United States at Bordeaux, recently reported to our Government concerning the wine production of France during the year 1888. He announces a considerable increase over the amount credited to 1887, and explains that the fact is due to the introduction of American vines as stocks. The vineyards of the south of France were the first to suffer from the ravages of the phylloxera, and their owners were the first to test the value of American plants. A large number of vines on American roots bore for the first time in 1888, and so successfully that the most steadfast doubters were converted; a large demand for seedlings immediately followed, and the nurseries have been already exhausted. Preparations are being made to meet the growing demand as quickly as possible, and, according to Mr. Roosevelt, the future is not very distant when the vintages of former years will again be equalled.

A recent number of the *Illustriate Gartenzeitung*, of Vienna, quotes from Monsieur Charles Joly, Vice-president of the Horticultural Society of France, a description of three enormous trees which stand in the south of France. One is a Stone-pine (*Pinus Pinea*), the stem of which is two metres in diameter—which means nearly twenty-two feet in circumference—with a crown of foliage that measures twenty-six metres in diameter. Another is a very old Olive-tree at Villefranche-sur-mer, between Nice and Monaco, which seems to have formed part of an ancient orchard, as it has several neighbors of almost equal size; the diameter of its trunk, at a metre above the ground, is the same as that of the Pine just referred to. And the third is a still larger Olive, which stands in the "*domaine de St. Eulalie.*" The circumference of this trunk is no less than eleven metres. Its head was greatly injured by a severe frost in 1820, but since then has developed afresh into a compact, spherical shape.

We have more than once referred to the fact that greater simplicity in the planting of flower-beds was becoming the rule in England, much to the enhancement of the effect of private gardens and public parks. Another instance may be quoted from a recently published description of this year's Tulip-planting in Alexandra Park, Manchester. Here there were twenty-eight large circular beds, each filled with a single variety of Tulips, about 300 plants to a bed. Prosperpine, Dussart, Potter, Crimson King, Rosa Mundi, Queen of the Violets and Chrysolora were the varieties used—seven in all—making four beds of each. The contrast of their colors, which was carefully considered in disposing the different beds with relation to each other, was sufficient to produce a very brilliant effect; and it may be noted that the beds themselves were placed where such formal arrangements are well in keeping—fourteen on either side of a long, straight path which runs from the terrace to the principal drive.

An interesting article recently published by Mr. Percy E. Newberry, in the *Pharmaceutical Record* of this city, upon "The History of Medicine in Ancient Egypt" says that some fifteen vegetable remedies are mentioned in a Papyrus preserved in the Leyden Museum, while the so-called "Berlin Medical Papyrus," which dates from the eighteenth dynasty, mentions more than fifty such remedies, "from herbs and fruits to sawdust and chips of Cypress and Sycamore." Mineral remedies were, of course, also largely used; and while many incantations and conjurations were thought to aid the physician in his work, still the manuscripts reveal no dependence upon "hocuspocus or gibberish." On the contrary, the well-known Egyptologist, George Ebers, writes that the famous Papyrus which bears his name and was published by him "shows that it was possible to write in the sixteenth century, B.C., complex receipts, and that the physicians understood how to administer with care the medicines prescribed." Many such receipts are written on the papyri, and some of them, says Mr. Newberry, might well be used to-day for the indicated purpose. Castor-oil, Senna and Caraway-seeds are among the vegetable remedies that were then employed in much the same way as they are to-day.

The park of Holwood House, which lies about fourteen miles from London, on the road to Uckfield, and was formerly the home of William Pitt, is famous for its magnificent trees of many kinds. But there can be none among them more interesting than a double tree recently described in the *Garden*. It is formed of an Oak and a Yew which were originally planted close to one another and the young stems of which were, perhaps, bound together. A "natural graft" was thus produced; the two trunks united and, though a clear line marks the junction of their different barks, there is now but a single trunk of perfectly normal outline, which at three feet above the ground girths nearly twelve feet. The height of the Oak portion is thirty-five feet, and its branches spread fifty-four feet, while the Yew portion is fifteen feet in height with a spread of thirty-six feet. Up to about five feet above the ground, where the Oak sends out two great branches, the Yew seems to absorb nearly one-third of the diameter of the trunk, although it is impossible, of course, to tell how far inward its wood extends. Each of the main branches of the Oak girths more than four and one-half feet and "as they grow in opposite directions . . . and in bow-shape have an appearance that is as peculiar as it is unusual in tree-growth." The Yew stem almost encircles one of these branches and is completely amalgamated with it, "the barks being level and as if inarched at the point of junction." Such a twin growth would be remarkable in any trees of different species, but is doubly striking when one is a deciduous and the other a coniferous tree, and we can well understand that "when viewed from the public path, which is only eleven yards distant, these combined trees present a most curious and unusual appearance, particularly when the Oak is destitute of leaves, as the co-mingled, deciduous and evergreen branches are then most noticeable."